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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/534,838	03/24/2000	Stefan Dyckerhoff	JNP-0017	2629

26615 7590 02/11/2004

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EXAMINER

BOAKYE, ALEXANDER O

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 02/11/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/534,838

Applicant(s)

DYCKERHOFF ET AL.

Examiner

Alexander Boakye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7,12,16-19,21 and 23 is/are rejected.
- 7) ☒ Claim(s) 5,8-11,13,14,20,22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. The restriction requirement dated October 14, 2003 has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 3, 4, 6, 7 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Martin (US Patent # 6,263,368).

Regarding claim 1, Martin discloses a bandwidth divider (the claimed bandwidth divider reads on dispatcher block 30 Fig. 3 since the dispatcher performs load balancing) for allocating bandwidth between a plurality of packet processors (server computers 16.1-16.4 of Fig. 3; column 6, lines 1-6) comprising : (a) plurality of counters (the claimed counters are resident in the dispatcher block 30) for measuring the bandwidth of data packets transferred from the bandwidth divider to a respective packet processor (column 3, lines 43-67; column 7, lines 1-3) ; (b) a controller for analyzing the plurality of counters (column 6, line 49-column 7, lines 1-4) and ; transferring a data packet to a selected packet processor based on the contents of the plurality of counters (column 3, lines 21-25)

Regarding claim 2, Martin teaches that the bandwidth divider includes a plurality of interfaces ,each coupled to an input and output stream (column 6, lines 52-55).

Regarding claim 3, Martin discloses that the plurality of counters includes counter for each input stream/packet processors combination (the claimed plurality of counters are inherent in the dispatcher block 30, Fig. 3 to count the message packets transmitted to the individual server computers 16.1-16.4 ; column 7, lines 1-4).

Regarding claim 4, Martin discloses a plurality of queues (column 9, lines 55-60) one for each input stream/packet processor combination, each queue operable to receive packets and forward packets stored therein in accordance with the selection of the controller (column 9, lines 56-64).

Regarding claim 6, Martin discloses that the packet processors is a packet forwarding engine(column 7, lines 36-44).

Regarding claim 7, Martin discloses that a counter (the counter is contained in the dispatcher, block 30 Fig.3) indicates the level of packet consumption of the a packet processor (column 6, lines 13-17).

Regarding claim 12, Martin discloses that the controller transfers a data packet to the packet processor (see 36, Fig. 8) with the least bandwidth consumption (column 10, lines 56-59).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US Patent # 6,263,368) in view of Dinakar et al. (US Patent # 6,359,900).

Regarding claim 16, Martin discloses a method of directing data packets to a plurality of packet processors, comprising the steps of: monitoring the bandwidth consumed by the packet processors (column 3, lines 43-57) ; determining, based on the bandwidth consumed by the packet processors, which packet processor has consumed the least amount of bandwidth (column 10, lines 53-59; the least amount of bandwidth corresponds to least loaded). Martin differs from the claimed invention in that Martin does not explicitly disclose allocating a next data packet to the packet processor which has consumed the least amount of bandwidth. However, Dinakar discloses allocating a next data packet to the packet processor which has consumed the least amount of bandwidth (column 5, lines 38-41). One of ordinary skill in the would have been motivated to incorporate allocating a next packet data to the packet processor which has consumed the least amount of bandwidth into the communication network of Martin in order to balance overall loading. Therefore, it would have been obvious to an artisan at the time the invention was made to incorporate allocating a next data packet to the packet processor which has consumed the least amount of bandwidth such as the one taught by Dinakar into the communication network of Martin with the motivation being that, it provides capability for the system to provide quality of service transmission for multimedia traffic, thus enhancing system performance.

Regarding claims 17,18,19, and 23, Martin discloses incrementing counters to track the bandwidth consumed by the packet processors (column 7, lines 45-58).

Regarding claim 21, the claimed step of decrementing the counters over time is inherent in Martin's packet count TC1-TC4 since one of the ordinary skill would be motivated to decrement packet count over time in order to be able to determine processor with the least amount of bandwidth as evidenced by Martin (column 8, lines 12-25).

Allowable Subject Matter

4. Claims 5, 8, 9, 10, 11, 13, 14, 20, 22, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 15 is allowable.

The following is a statement of reasons for the indication of allowable subject matter: As to claim 15, the prior art of record does not teach a plurality of cross-bars for receiving the second set of input streams from the packet processors, multiplexing the second set of input streams, and providing a second set of output streams.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (703) 308-9554. The examiner can normally be reached on M-F from 8:30am to 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (703) 305-4378. The fax number is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-4750.

Alexander Boakye

Patent Examiner

AB
2/03/04


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2/6/04